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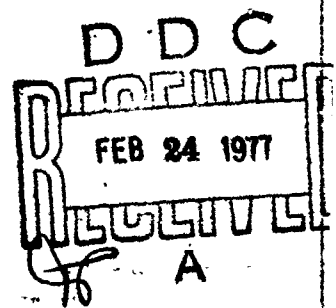


PROGRAM MANAGEMENT COURSE
INDIVIDUAL STUDY PROGRAM

SIGNIFICANT PERSONAL QUALITIES
DESIRED OF AIR FORCE PROGRAM MANAGERS

STUDY PROJECT REPORT
PMC 76-2

James H. Brahney
Major USAF



FORT BELVOIR, VIRGINIA 22060

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DEFENSE SYSTEMS MANAGEMENT COLLEGE

STUDY TITLE:

SIGNIFICANT PERSONAL QUALITIES DESIRED OF AIR FORCE
PROGRAM MANAGERS

STUDY PROJECT GOALS:

To identify the personal qualities, discuss their significance, and to analyze their effect on the program manager (PM).

STUDY REPORT ABSTRACT:

The purpose of the study was to explore the personal attributes which appear to have special significance for a program manager. In his peculiar environment and in his diverse managerial roles, certain personal qualities appear to be important for effective program management. An extensive literature review was conducted to define the most significant qualities. Then, structured interviews were conducted with senior officers involved in the PM selection process to determine the validity of those personal qualities.

The study project concluded that the five most significant personal attributes are motivation, self-confidence, sensitivity, integrity, and self-discipline. Results from the interviews showed that motivation is the most important of the personal qualities desired in USAF program managers.

It was recommended that full consideration be given to a formal analysis of the candidate's personality as an integral part of the selection process. Results suggested that this aspect of the overall selection process should be given more emphasis along with the traditional factors of experience, education, and past performance.

Additional data, collected by means of questionnaires and structured interviews, are required from the Commanders, AFSC, the Product Division Commanders, and other senior personnel officers. Further analysis should be directed at confirming the current list of significant PM personal qualities. Finally, a study should be conducted to determine the completeness of the current PM selection process.

KEY WORDS: Project Management, Officer Personnel, Personal Qualities

NAME, RANK, SERVICE

Major James H. Brahney

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November 1976

SIGNIFICANT PERSONAL QUALITIES
DESIRED OF AIR FORCE PROGRAM MANAGERS

Study Project Report
Individual Study Program

Defense Systems Management College
Program Management Course
Class 76-2

by

James H. Brahney
Major USAF

November 1976

Study Project Advisor
Lt. Col. Donald Fujii, USAF

This study project report represents the views, conclusions, and recommendations of the author and does not necessarily reflect the official opinion of the Defense Systems Management College or the Department of Defense.

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EXECUTIVE SUMMARY

The purpose of this study paper was to identify and analyze the personal qualities which are desired of officers selected as managers of the major U. S. Air Force weapon system projects. Based upon a consideration of the unique environment in which the program manager functions, and an extensive survey of literature, five crucial personal qualities were identified. They were motivation, self-discipline, integrity, sensitivity, and self-confidence. Data obtained from structured interviews with senior officers at Headquarters Air Force Systems Command who are directly involved in the selection of Air Force program managers substantiated the significance of those five attributes.

The paper examines the personal qualities and relates them to the program manager (PM) as he carries out his wide variety of managerial roles in a pressure-laden environment. The interview results indicated that the five personal qualities are implicitly considered during the selection of program managers. However, in the interest of developing a more accurate and useful selection procedure, it was suggested that the five personal qualities be integrated and treated as formal factors in the current selection process. The demands placed upon program managers require a manager who is highly motivated, has self-discipline, integrity, self-confidence and sensitivity in addition to the appropriate experience and education along with a record of outstanding past performance.

ACKNOWLEDGEMENTS

Many thanks to LtCol Donald Fujii whose expert guidance was of invaluable assistance in the accomplishment of this study project. His suggestion to interview senior officers involved in the program manager selection process proved to be a major factor in establishing a degree of credibility in the conclusions drawn from the analyses.

My appreciation also goes out to those senior officers who set aside the time (in one case, one full hour) so that I could pick their minds about the program manager selection process.

My thanks also to Sylvia Spencer for her typing effort which approached perfection.

TABLE OF CONTENTS

	<u>PAGE</u>
EXECUTIVE SUMMARY	ii
ACKNOWLEDGEMENTS.	iii
 <u>SECTION</u>	
I. INTRODUCTION	1
Purpose of the Report.	1
Scope of Study	4
II. BACKGROUND	5
The Program Manager's Environment.	5
III. ASSUMPTIONS.	9
IV. METHODOLOGY.	13
Survey of Literature	13
Structured Interviews.	14
V. DISCUSSION	16
Motivation	16
Self-Discipline.	23
Sensitivity.	31
Integrity.	36
Self-Confidence.	43
Interviews Analysis.	49
VI. SUMMARY.	51
Conclusions.	53
Recommendations.	54

LIST OF REFERENCES

ABSTRACT

SECTION I

INTRODUCTION

Purpose of the Report

Very early in his current term as Deputy Secretary of Defense, William P. Clements expressed his intent to emphasize throughout the Department of Defense the importance of program managers. In an address to the Defense Systems Management College in 1975, he said that one might think that most of the problems in systems acquisition had been solved, but nothing could be further from the truth. In that speech, Mr. Clements put the responsibility for improving the acquisition process squarely on the shoulders of the program managers.¹ His predecessor, David Packard, once stated that "there is no better way to improve the management of a program than to get a better manager and give him the responsibility to manage."² To get a better manager? There is an emerging consensus as to what experience and education criteria should govern the selection of program managers. Nevertheless, there remain opposing viewpoints held by experts in this field. As evidence, here are two such opposing views extracted from the same publication:

I do not believe that (project) managers are born - they are made.³

Good managers are born, not made.⁴

What makes a good program manager? Former Commander of Air Force Systems Command, General Phillips, once offered, "A combination of formal training, a reasonable mixture of experience.... Work in Air Force line jobs, testing, and procurement. There is no stereotype list of qualifications."⁵

Although this is a rather vague statement of qualifications, there are indications that a model for the program manager is emerging. "He is a military generalist who has had the right assignments, has demonstrated outstanding performance and potential, and has had some managerial and/or technical training and experience."⁶

The military services provide a specific, albeit sketchy career pattern for program managers. Typical of these is Air Force Manual 36-23 which, in Chapters 17 and 20, outlines the career pattern established for program management. "The normal pattern for the career development....is one of academic specialization, increased graduate education, and broadening technical experience with increased responsibility for program supervision and management."⁷

There is an effort by the Air Force to provide qualified officers with the experience and education appropriate to a career in weapons systems acquisition. There is also a continuing effort to make the career field attractive to young officers, as reflected in the ongoing discussion of the question of command equivalency and the initiation of program manager selection boards in the Army and Navy. The Air Force Systems Command (AFSC) has established the so-called "Blue Room" at AFSC Headquarters for tracking its program managers and for controlling assignments of its program management resources.⁸

In any treatise on the identification, selection, and development of Air Force program managers, there is almost total restriction to the experience and educational aspects. There is one notable exception, AFSCP 800-3, the bible for USAF program managers. It states that the job requires creative thinking, a man who has initiative, leadership, and dedication to the

job. It states, in addition, that the number of people who possess the requirements is limited.⁹

The essential ingredients which constitute the good program manager are the appropriate advanced education and functional training, pertinent experience, and certain personality characteristics. In discussions of the selection process, experience, past performance, and education are accentuated, but personal attributes are not mentioned, at least not formally. However, there are certain significant personal qualities which an officer should possess in order to be successful in the program management environment. It is the objective of this study to identify the most important qualities, to discuss and analyze their significance, and to assess their effect on the program manager in his peculiar environment.

Scope of the Study

Although this analysis of program manager personal qualities could pertain to any business manager, this discussion is restricted to U. S. Air Force program managers because of the unique environment in which they operate. Certain characteristics appear to be more important to managers in other types of business organizations.

This study project is also limited to military officers who are managers of major defense system acquisition programs, as defined by the Office of the Secretary of Defense. These are multi-million dollar programs normally managed by officers of General/Flag rank, although a small percentage are managed by colonels/captains.

Finally, the study limits the analysis to the five personal qualities of motivation, self-confidence, integrity, self-discipline, and sensitivity.

SECTION II

BACKGROUND

The Program Manager's Environment

We shall examine the program manager's environment before commencing with an analysis of his desired personal qualities because it is the nature of the job that requires the manager to possess those characteristics. All successful managers possess, to a degree, the qualities which are discussed in this paper; however, the environment in which the program manager functions is quite different from that in which other types of managers operate. The million and billion dollar price tags associated with the major weapon system development programs and the government contractual relationships with the defense industry demand certain personal qualities in the program manager.

The first characteristic which makes the program management environment unique is the life cycle concept which serves as an overall framework for the program manager. This life cycle concept assists the program manager during the weapon system acquisition process by establishing certain decision points, and by providing the baseline upon which master plans can be laid out. The acquisition process is divided into four major phases of activity: the conceptual phase, validation phase, full-scale development phase, and the production and deployment phase.¹¹ The AFSC program manager is responsible for the system development until responsibility for deployment is transferred to Air Force Logistics Command.

During the conceptual phase, the bases for an acquisition program are established through system studies and experimental hardware tests. Concurrently, alternatives are examined and a preferred approach is identified.

An analysis is then performed on the preferred approach to include risk assessment and cost and schedule estimates. During the validation phase, the primary characteristics of the program are refined and validated through analysis and testing. In the full-scale development phase, design, fabrication, and test are completed to insure that the system is ready for production. The production phase is that portion of the process in which the system enters production for operational use. The Defense Systems Acquisition Review Council (DSARC) is organized for program review prior to initiation of the second, third, and fourth phases of the cycle. Recommendations are made by DSARC and are submitted to the Secretary of Defense who has final approval authority on all major defense system programs. The activities of the program manager and his emphasis on management disciplines varies throughout each of the four phases.

Basic program objectives are established in the program manager's charter, and he derives his authority from the signature on that charter. As established in the charter, he is responsible for the master plan; he is granted executive authority to make technical and business management decisions, to approve the scope, schedule, and costs of the program. Significantly, the charter also directs the program manager to report his program status to the appropriate agency.¹²

The program manager is authorized to operate across functional and organizational lines to funnel to a focal point those activities required to achieve program integration. He is faced with a diversity of management responsibilities which include making almost continuous tradeoffs between system performance, cost, and schedule.

Koontz and O'Donnell specify five basic functions of management, those being planning, organizing, staffing, directing, and controlling.¹³ Although the program manager is certainly responsible for the performance of these basic functions, his responsibilities also permeate certain specific functional areas, i.e., procurement, program control, systems engineering, data management, production management, test and deployment, etc.

At this point, it might be wise to explore the more detailed work characteristics of the program manager. Henry Mintzberg performed an extraordinary study of some of his observations of managerial work.¹⁴ In his analysis, he concluded that managers, in general, perform ten basic roles which tend to fall into three separate categories. These are: 1) the interpersonal roles of figurehead, leader, and liaison, 2) the informational roles of nerve center, disseminator, and spokesman, and 3) the decisional roles of entrepreneur, disturbance handler, resource allocator, and negotiator. Let us examine these roles in the context of program management.

First, the interpersonal roles. These are inherent in the chartered authority and responsibilities of the program manager. Because of his status as the figurehead, he must perform many, if not all the functions of the military commander. As the leader, he is tasked with the responsibility of directing his subordinates' efforts toward meeting one, common objective - mission accomplishment. As a liaison, he crosses functional lines within the organization's structure to deal with a diverse array of people, of rank and stature below, equal to, or above his.

The informational roles of the program manager deal primarily with communication, that is the dissemination of information both internal and external to the program office. This information processing spans the

entire communications spectrum, as he reports program status to superiors, as he deals closely with industrial contractor, and as he attempts to "keep the troops informed". Of necessity, this is a two-way communicative system since the program manager must also absorb and filter out a multitude of informational inputs.

In his role as the entrepreneur, the program manager must take whatever action deemed feasible to preserve the organizational integrity of his program office. Disturbances are meant to be changes, either those directed by higher headquarters or those resulting from failures in system concepts. In his role as the disturbance handler, the program manager is required to maintain overall program equilibrium, yet effect the appropriate changes to handle the disturbance. As resource allocator, his concern is with tradeoffs between time and money versus cost. Coexistent with this role is his responsibility as the negotiator. The program manager must negotiate with the contractor for the time-cost expense of all developments within the program.

Throughout this discussion of the varied roles of the program manager, it has been apparent that certain personal qualities might be of greater importance for the program manager than others. Several of these attributes may lend themselves best to the program manager's roles. If these personal qualities are the program manager's strengths, they would contribute significantly to his overall performance as an effective program manager.

SECTION III

ASSUMPTIONS

This analysis makes certain assumptions about the program manager's role, characteristics, and environment. It is assumed that the appropriate resources are available for the program manager to accomplish his task. This may not be an entirely valid assumption, for as Skantze points out, the program manager "must argue like fury for the best, then take his mixed bag of skilled and unskilled, experienced and inexperienced people, and mold them into a team."¹⁵ This was stated in 1969 and, hopefully, the Air Force has since made gains in manning program offices with the appropriate number of quality people. In any event, it has no direct bearing on a study of personal qualities, so it is assumed that the required resources are available, quantitatively and qualitatively.

It is also assumed that the program manager has been granted the authority commensurate with his responsibilities. By his charter, the program manager has authority to make technical and business management decisions and to approve, consistent with procurement regulations, all contractual actions required to accomplish the program. There is another kind of authority which can be developed. This defacto authority may be better defined as influence, and it is developed through the program manager's managerial effectiveness, expressed knowledge, and personality. Cleland states that "a man gains this type of authority only through recognition of his accomplishments by the other members of his environment, not by policy documentation, however extensive."¹⁶ This type of authority is divorced from the traditional superior-subordinate relationship exhibited in the

rank differential of the program manager and his workers. This defacto authority is not assumed because it is dependent upon the workers' perception of the program manager.

This study assumes that the program manager is a military officer and that he holds rank consistent with the level of importance of the program he is managing. It is well known that high-ranking civilian government employees have held the position of program manager.¹⁷ There have been numerous advocates of the employment of civilians in these positions; however, the trend is toward utilization of professional military officers in program manager positions. In fact, the inclination is toward elevating the rank of the manager of the major weapons system programs. The Logistics Management Institute recommended that this trend toward upgrading the rank of program managers should continue, with special emphasis on designating General officers as managers of the most significant development programs.¹⁸

The personality characteristics desired of a manager and/or leader have been listed in many forms in numerous papers, texts, and journal articles. A survey of the various lists would indicate a lack of unanimity of thought on precisely what personal qualities a manager should exhibit. In his study of a process for selecting program managers, Lockwood substantiated the view that there are as many opinions as there are authors.¹⁹ Smythe and McMullan reviewed the works of numerous authors and compiled a list of some sixty desirable managerial traits.²⁰ Many of these attributes were found to be similar, or nearly identical in meaning, so the list was narrowed to a total of seven. They felt that the characteristics selected were representative of those researched so as to encompass a wide range of desired

characteristics. In three of the seven, similar meanings were combined to convey a more accurate description of the desired attributes of a program manager. Their final list consisted of communicative skills, decision-making ability, imagination, motivation, and self-confidence.

In Seborg's study of the qualities of a program manager, he differentiated between the technical, managerial, and personality traits.²¹ He included such adjectives as "knowledgeable", "professional", and "responsible." For purposes of this study, it is assumed that an officer who has achieved the status of a program manager would have clearly demonstrated a high degree of knowledge, professionalism, and responsibility along the way.

Skantze referred to the program manager as his own single most important resource. He indicated that the program manager's experience, judgement, leadership qualities, and stamina combine to make him the focal point in his own program. This study assumes that a program manager would not have achieved his status had he not previously exhibited sound judgement, leadership qualities, and a good bit of stamina. In point of fact, this analysis assumes quite a bit of the program manager, and well it should, because the manager of a major defense system program is a man of monumental responsibilities. It is not overstating the qualities of a program manager to say that he is assumed to be a knowledgeable, responsible, imaginative, dedicated, and professional military leader of the highest degree. So, in this study, those qualities and any others which would describe the makeup of an individual of this status are assumed to be present.

The same might be said for the attributes which were selected for discussion; however, there are certain qualities which are either 1) somewhat peculiar to the program management environment, or 2) so significant to

the program manager as to warrant treatment herein. Analysis of a particular personality characteristic in this study does not necessarily discount or denigrate the significance of others. Rather, it denotes a special importance has been attached to that quality in the context of the program management environment. In addition, it should be noted that the attributes selected for analysis may not reflect the classic behavioral scientist's terminology for personality traits.

After an extensive survey of the literature related to this topic, and in light of the previous assumptions and discussion, the personal qualities selected for this study project are as follows:

- Motivation
- Self-Discipline
- Sensitivity
- Integrity
- Self-Confidence

SECTION IV

METHODOLOGY

Survey of Literature

Available literature was surveyed extensively; the topics pursued were management theory, managerial psychology, the program manager and his environment, management and business practices, and the five selected personal qualities. Information was gleaned from numerous and varied sources, including textbooks, professional journals, government publications, and student papers from various government functional and professional colleges.

Structured Interviews

Structured interviews were conducted on a non-attribution basis with six high-ranking officers (Lt. Col. through Lt. Gen.) at Air Force Systems Command (AFSC) Headquarters, Andrews AFB, Maryland. The senior officers who were interviewed were, and are directly involved in the selection of major defense system program managers within AFSC.

The purpose of the interviews was to identify the role which the PM candidate's personal qualities plays in the overall selection process and to verify the significance of the five personality characteristics selected for this paper. Following is a list of the questions posed during each interview:

1. Does the candidate's personality play a part in the PM selection process? Formally or informally?
2. Does it receive as much emphasis as education, experience, and past performance?
3. What process is used to determine if a candidate possesses certain significant traits?
4. How are you able to assess the degree to which certain traits have been developed?
5. Here is a list of personal qualities:

Self-Confidence
Motivation
Sensitivity
Integrity
Self-Discipline

- a. Do these listed traits specifically play a part in the selection process?
- b. Would any of these characteristics not receive consideration? If so, why not?

6. How would you rank the above personal qualities in order of importance, as they relate to the program manager selection process?
7. Can you think of a characteristic(s) not listed that you consider
 - a. more important
 - b. just as important
8. Why did you select _____ as the most important of the group?

SECTION V
DISCUSSION
Motivation

Motivate: to provide with a motive. It is beneficial at the outset of this discussion to differentiate between motive, incentive, and inducement since, often times, they tend to be used interchangeably. "Motive" implies an emotion, something acting on one's will, causing one to act, whereas "incentive" relates more to an external influence such as a reward, and "inducement" suggests enticements. This discussion will be oriented to the pure dictionary definition of the word "motivation". This is further substantiated by Douglas McGregor who states that "motivation is an emotional force."²³ So the question becomes: what are these things that "act on one's will to cause one to act?" What creates this will or act?

McGregor says that man is by his very nature motivated. Inputs of energy are transformed by him into outputs of behavior, including intellectual activities and emotional responses. His behavior is influenced by the relationship between himself and his environment. We do not motivate man because he is motivated.

Maslow's central thesis is that human needs are organized in a hierarchy, with physical needs for survival at the base. At progressively higher levels are needs for security, social interaction, and ego satisfaction.²⁴ Simply, when lower-level needs are reasonably well satisfied, progressively higher level needs become more important as motivators of behavior. The theory asserts that if man is freed, to some extent, from using his energies to obtain the necessities of life and a certain degree of security, he will pursue goals associated with his higher-level needs,

i.e., control over one's fate, self-respect, responsibility, achievement, etc.

It is a false supposition that motivation is caused by something external to oneself. While external forces are believed to effect motivation, genuine motivation is actually internal, something that comes from within a human being, inciting him to act in some fashion. Behavioral scientists view man as goal-seeking from his birth, and man's actions to reach a goal are perceived as drives. His acting out of a drive is reflected in motivation to achieve that goal. The motivation of an individual depends on the strength of his personal motives. Motives can be defined as needs, wants, or drives, and they are directed at achieving goals. Motives tell us why we behave in a certain way and they provide the direction for individual behavior.

With respect to Maslow's hierarchy of needs, we are assuming that the program managers has satisfied his social needs and, to a degree, his esteem needs. Satisfaction of the esteem needs implies feelings of prestige and power. Certainly, a general officer has attained a position of prestige and power by the mere recognition of his rank and status. Once those esteem needs are satisfied, the individual then feels the need for self-actualization. This is the need one has to maximize his potential; the desire to be whatever one is capable of being. This analysis of motivation will consider the program manager in that context, that is, at the level of self-esteem and self-actualization.

Maximization of one's potential implies one of two concepts of self-actualization, achievement and competence. The latter suggest an ability to control, to a degree, one's physical and social environment. The need

to achieve has been studied by numerous behavioral scientists, most notably David McClelland. In an incredible study of motivation, McClelland and Winter emphasized the need for achievement. Their findings highlighted some peculiar characteristics of individuals with a need to achieve.²⁵ First, the achievement-motivated individual prefers to take only a moderate degree of risk because he genuinely feels that his decisions will affect the ultimate result. He is motivated by a sense of responsibility in his decision-making because his inner feelings are that he is a significant factor in guiding the course of events. Secondly, the achievement-oriented individual tends to be more content with personal success than with the rewards that might ensue. His primary drive is not for financial gain, but for the achievement itself. These findings would imply that this is the case with program managers, for a job with comparable responsibilities in civilian industry would undoubtedly result in much higher financial rewards.

Significant to note here is that, according to McClelland, achievement-oriented individuals do not always make the best managers. Since he is driving to work to his full capacity, he usually expects the same of his associates. As a result, when he is placed in the challenging position of the program manager, he might tend to lack the humanistic skills required to deal effectively with his subordinates. The program manager who is highly motivated to achieve, and yet can balance achievement motivation with sensitivity to his total environment, is a rare individual indeed.

Innumerable authors have studied the effect of incentives on productivity. Most of their research was oriented to economic achievement and has emphasized the worker rather than the manager. Chester Barnard's list of incentives includes primarily material things, but does not exclude intan-

gibles such as pride of workmanship, social compatibility and the like.²⁶ Tannenbaum did not limit his studies of incentives to the worker. "An incentive is any device which is offered to induce an individual - manager or non-manager - to contribute services at a desired intensity to an enterprise."²⁷ For our purposes, we will forsake the use of the word "incentive" because of its economic connotations, and we will discuss the motivation of managers with respect to his characteristics.

McClelland expanded upon three primary motivational characteristics, first conceptualized by H. A. Murray, and those are the needs for power, affiliation, and achievement. In an interview with Management Review, he said that the best managers are high in the need for power and low in the need for affiliation. McClelland stated that those successful managers "are not interested in people, they are interested in discipline."²⁸ He pointed out that the evidence shows that the subordinates of such managers have high morale, thus refuting one of McGregor theories. That need for power is not necessarily bad; in fact, there is a marked disenchantment with power in society today. American society tends to still regard power with a degree of caution, if not outright scorn. There remains that concept of revolt of the oppressed against the exercise of authority and power. But there is another side of power, that found in the successful manager.

There are certain power-oriented characteristics which are found in the successful manager, and these appear to relate strongly to the program manager. He believes in an authority system. His credo is that the institution is more important than the individuals in it. He enjoys work and its discipline, and he believes that this leads to orderly management. He is altruistic; that is, he is willing to sacrifice his own self-interest for

the good of the organization. McClelland points out that, interestingly, this type of manager will do this in some obvious manner so that it will be recognized by everyone concerned. To balance his belief in the authority system with an appreciation for human values, the successful manager lastly believes in justice above all, that people must have equitable treatment.²⁹

A curious aspect of motivation of the manager is seen in Livingston's list of three basic characteristics of successful managers. Receiving importance equal to the need for power and the capacity for empathy is the fundamental need to manage.³⁰ The capacity for empathy will be discussed later in relation to sensitivity so, for now, let us explore this "need to manage." Many individuals who have aspirations for top-level management positions are really not motivated to manage, in the true sense of the word. Their motivations lie in the financial gains and the attainment of high status, not in getting effective results through others. Although their aspirations are high, their motivation "to manage" is rather low. Livingston elucidates this point in saying that experience shows that an individual without the need to manage will likely not succeed in a managerial career. Unless he has a strong psychological need to influence the performance of others, he just can not manage effectively.

Significant findings emanated from a survey of the motivation of a large group of managers, some of which applied to top-level management.³¹ One such discovery tended to support Maslow's theory of self-actualization, that the motivation of the manager is strongest when he is maximizing his own potential. One would suspect that a program manager would be rather close to maximizing his potential, given the tasks and responsibilities inherent in the position.

The interviews conducted at Systems Command Headquarters supported the conclusion that the motivation of a program manager is a prime factor in his success or failure. When asked to choose the most important of the five listed personality traits, almost without hesitation, the nearly unanimous response was "motivation." Comments centered on the fact that an individual would have to be motivated by a need to achieve in order to attain the position of program manager. Each of the senior officers interviewed alluded to the fact that mere achievement of the status of program manager would not satisfy the need to achieve. They maintained that this motivation would be carried through the assignment as program manager, and probably would be reinforced by the position. One even attached a "loyalty to the program" to the motivating characteristics of the position. Another philosophized that, assuming a one-star rank, the position of program manager would serve to strengthen the need to achieve and would motivate the individual to excel in order to be further recognized and selected for promotion. Each of the officers interviewed also regarded motivation as something that tends to "rub off" on other people. Subordinates who perceive the program manager as being highly motivated tend to become similarly motivated themselves.

Motivation of the successful manager is oriented to the fulfillment of self-actualization needs, that is, the maximizing of one's potential. Highly-motivated individuals tend to be achievement-oriented and those managers tend to be power-oriented. Highly motivated managers, and most assuredly program managers, reflect a need to manage, a need to influence the performance of others. Mansperger's study of the motivations of program managers substantiated the view that motivation is greatest at the upper levels of management. He concluded that "the apparent motivation and job satisfaction is signifi-

cantly higher for individuals occupying the more senior positions.³² Finally, motivation appears to be the most important personal quality for a program manager to possess.

Self-Discipline

In this discussion of self-discipline, we will regard the term as encompassing all aspects of the regulation of oneself for the sake of improvement. The program manager's environment is one of high pressure, one that tends to put extreme demands on the program manager's time, disposition, and work habits. Skantze has said that the program manager "must practice one of the most difficult kinds of self-discipline because he must insure that he allocates himself appropriate time for program review and reconsideration on a daily basis."³³ Peter Drucker amplified on what seems to be an inherent problem of managers, inherent because they are human beings: "The hardest thing a manager has to do is wean himself away from what he likes to do and become adjusted to a diet of different activities."³⁴ The program manager must organize his time, establish priorities, adhere to his own self-regulation mechanisms, and maintain his composure.

Drucker has said "in my opinion, effective executives do not start with their tasks; they start with their time."³⁵ Successful managers are able to apportion their time to a hierarchy of priorities. They determine how much time they have, where it goes, and what is the most important use of it. They then attempt to reduce unproductive demands on their time. It is important to note that time is a totally irreplaceable resource. There is absolutely no substitute for time. Yet, there are constant pressures, especially in the program manager's milieu, toward unproductive and wasteful use of time. The higher a manager goes in an organization, the greater the demands on his time. In the context of the program manager, in addition to the normal managerial functions, there are numerous demands on his time, i.e., advocacy time, liaison time, ceremonial time, etc.

Advocacy time is spent by the program manager serving as the proponent of his program. Although this function is formally assigned to the DOD component headquarters, the program manager nevertheless spends a great portion of his time in the advocacy role. He is the focal point of the program through which all information is funneled. As liaison, he processes, filters, coordinates, and communicates this information with several levels of higher headquarters, contractors and subcontractors, the associated government agencies, and within his program office. This role is portrayed both internal and external to the program office. He is expected to accomplish the ceremonial role of the commander, presenting awards and decorations, representing the program at social functions, etc. How does he do it? In some instances, he doesn't. Responses to Mansperger's questionnaire indicated that many felt that they "did not have enough time to accomplish meaningful tasks well and that too much time was required for routine tasks or satisfying requests from higher headquarters."³⁶

It appears that the top executive position itself fosters a waste of time in that time must be spent on things which, though they apparently have to be done, contribute nothing or very little to the accomplishment of the mission. A peculiar aspect of the problem is that most executive tasks require a fairly large quantum of time in order to achieve minimal effectiveness. Unfortunately, to spend less time in one stretch than is actually essential to do the job properly and completely is much more of a waste; one accomplishes nothing and must start over. This is particularly true in dealing with people, which happens to be the central task in the work of the program manager. To spend only a few minutes with people has proven to be non-productive. A manager is committed to spending rather large quanta of time in discussing plans, giving direction, and discussing performance with people.

There is general agreement among experienced program managers that a shortage of time is their greatest and most difficult problem. "Time seems to evaporate mysteriously, and everything takes longer."³⁷ The constraints on time management within his program office environs lie primarily in the fact that the majority of assigned personnel are "knowledge workers", as opposed to manual laborers or technicians. The program manager can not deal with his subordinates by establishing piecemeal standards because knowledge work can not be measured in those terms. The program manager must spend time with his subordinates, establishing objectives, analyzing the work, and evaluating performance. Since the knowledge worker, to a great extent, directs his own work, he must understand what achievement is expected of him -- and why. For this, he needs information, discussion, and instruction, and this takes time. These kinds of duties can, of course, be delegated to lower management levels, but the fact remains that the program manager must deal with those tasks to a degree.

Time, in large, continuous units, is required for decisions regarding whom to assign to a special project, what responsibilities to entrust to the head of a new division, how to rate the performance of program office personnel, how to deal with contractors, other government agencies, and so forth. Any people - related decision has to be time-consuming because man was not originally designed to be an organization resource. People never come in the perfect size and shape to fit the mold of the task at hand. Many of these people-related activities naturally require meetings, and as Drucker states, "as a rule, meetings should never be allowed to become the major demand on an executive's time."³⁸ The program manager must be constantly alert to guard against this pitfall. One of the officers interviewed at Systems Command

observed that the only way a program manager "can get by is to force himself to avoid doing the nitty gritty. This is a measure of a man's capabilities, too, as it's related to his ability to perform his job as it was intended to be. I know one program manager who's working twenty-four hours a day, and he really only has to work eighteen!"

Numerous approaches to organization theory and management practice have surfaced in the past few years. One theory which attempts to integrate individual and group goals with the goals of the organization is management by objectives (MBO). It has been an effective aid to managers in controlling their time and maximizing the use of it. Odiorne defines MBO as a management process whereby the superiors and subordinate manager combine efforts to identify the organization's common goals. Together, they distinguish each individual's major areas of responsibility in terms of expected results. Those measures are then used as guides for operating the unit and evaluating the performance of each individual.³⁹ A program manager could choose to manage by objectives or he could use a modified approach to MBO. Drucker, who coined the term, says that there is one very significant aspect of MBO as it applies to the manager's characteristics. "Management by objectives and self-control asks for self-discipline."⁴⁰ MBO and self-control assumes that people want to be responsible, want to contribute, want to achieve.

A manager who assumes that strength, responsibility, and a desire to contribute are inherent in his subordinates may initially experience a few disappointments; however, his first and foremost task is to make the strengths of his people effective. This can only be accomplished if he assumes that his subordinates, especially middle managers and knowledge workers, want to achieve, and as we have seen, this is a fair assumption in most cases. One

of the prime tasks of the program manager is training; that is, he must support an environment that solicits participation from and provides instruction for tomorrow's program managers so that they have the opportunity to develop their skills within the program office. But Drucker cautions again that they also "need to be subject - and to subject themselves - to the disciplines and demands of management by objectives and self-control."⁴¹

Perhaps the greatest benefit to be derived from MBO is that it forces the manager to track his own activities and to control his own performance. Self-control means stronger motivation, a desire to do one's best rather than to do just enough. To be able to control his own performance a manager needs to know more than just what his goals might be. He has to be able to measure his own results and performance against those established goals. For the program manager, this is not always an easy task. The program manager is encouraged to adapt standard techniques to the peculiarities of his own program. In turn, he has the right to expect those who are going to approve his plans and techniques to equitably exercise their power of approval. He should be provided with appropriate inputs from higher headquarters so that he is able to measure his performance against goals rather than being judged by the standard of "meticulous compliance with innumerable details hidden away in various documents and publications."⁴² Clear-cut goals and a method of evaluating one's own performance will aid directly in a program manager's capacity for self-discipline.

Thus far, we have been discussing self-discipline from the points of view of effective time management and controlling one's efforts toward, and measuring performance against, established goals. There is, obviously, the emotional aspect of self-discipline which involves self-control or regulation

of one's own emotions. Human beings in relationships that involve differences in power and status are vulnerable to the effects of emotional forces. An individual can gain a degree of control over emotions which influence his behavior if he can accept them as fact. If he can come to recognize them, analyze them, and then accept them as part of his behavioral makeup, he can control their effects to some extent.

The program manager is a good example of rational-emotional human nature; that is, his own perceptions and feelings, partly conscious and partly subconscious, exert a great deal of influence on his ability to accept that man is not separable into a rational being and an emotional one. The program manager will achieve more rational business decisions if he can accept the broad implications of the relationship between social interaction and control of emotional influences on behavior. To accept that view, for instance, would alter his view of what is controllable and predictable in his program office environment. Understanding this facet of human behavior will assist the program manager in understanding himself.

The real desire of a manager is that human beings should express selected emotions and suppress others. He would hope to avoid such characteristics as antagonism, hostility, defiance, uncooperativeness, and unrealistic points of view. He would like to eliminate those emotional forces that, in his mind, are associated with selfish, immature, and unreasonable behavior and maladjustment. Unfortunately, those emotions exist, and they influence behavior, including sound thinking, logical reasoning, and the decision-making process, whenever they are aroused. Success in controlling one's emotions is partly arrived at by attaining and maintaining objectivity. Complete objectivity, however, is an extremely rare phenomenon unless, of

course, the issue at hand is of no great consequence to the individual. This is not usually the case in program management decision-making.

The program manager should "rely on a degree of persuasion and open communication to achieve self-discipline and self-control on the part of others in the drive toward the organization's objectives and goals."⁴³ This environment fosters the development of professionalism on the part of its members. Such an environment which encourages individual growth is, however, not without frustrations. If hopes are aroused but the goals are not realized, individuals may feel rejected by the organization and may react with apathy and defeatism, or even with aggression and hostility. These same kinds of behavior can, of course, exist in the manager himself. It is basically a relationship between aspiration and one's ability to achieve them. If the two are relatively close to each other, frustration is unlikely. Thus, the program manager with a strong need to achieve must discipline himself to establish goals which are within reach - for himself and his workers.

Some odd implications evolve out of these generalizations about frustration. The self-assured manager is less likely to encounter serious obstacles, but he is likely to react with more emotion when he does encounter them.⁴⁴ It is generally accepted that the military services prefer solid, optimistic people to shy, withdrawn, insecure people, and even moreso when one considers the program manager's role. It is also evident that those who exhibit emotional outbursts are looked on with some disfavor. Emotional blowoff is seen as unprofessional behavior; hence, we are likely to find a large number of officers portraying a mien of external calm, yet there may be deep-seated emotion within. This would be most prevalent in high-pressure jobs at the upper levels such as that of the program manager.

Continuous stifling of these emotions, Leavitt says, can lead to both psychological disorders and chronic physiological disturbance.⁴⁵ The occasional blowoff, therefore, should be viewed as a normal reaction by an imperfect, hard-working, highly motivated individual when he encounters, as he most certainly does in his role as a program manager, a difficult, unexpected, and seemingly insurmountable obstacle. Unfortunately that is not the way it is in the real world.

The program manager should examine his work characteristics thoroughly to insure that he is effectively managing his time. Indications are that, on the whole, this is not the case. He must be more prepared to delegate those responsibilities which are below the level of his direct concern. He should also avoid becoming bogged down in a myriad of meetings and he should attempt to divorce himself, as much as possible, from the role of the traveling proponent. In his high-pressure environment, the program manager should be prepared to meet obstacles and to deal psychologically with the ensuing frustrations. Significantly, an occasional loss of composure should not be viewed with disdain but, rather, it should be seen as a normal reaction to the rigors of the program management milieu.

Sensitivity

Roethlisberger summed up the observations on the behavior of people at work in this passage:

People at work are not so different from people in other aspects of life. They have feelings. They like to feel important and to have their work recognized as important. They like to work in an atmosphere of approval. They like to be praised rather than blamed. They like to know what is expected of them and where they stand in relation of their boss' expectations. They like to be able to express their feelings to them....to be listened to.... to have their feelings and points of view taken into account.... Employees, like most people, want to be treated as belonging to and being an integral part of some group.⁴⁶

In this extraordinarily succinct narrative, Roethlisberger has nearly spanned the entire spectrum of human relations as it applies to today's business world. The sensitivity that we will discuss here is the kind of awareness and sincere understanding of the aforementioned principles. Moreover, this analysis of sensitivity will include the program manager's cognizance of his total environment, including himself. It is a discussion of sensitivity - not human relations.

Drucker has said that executives do not have good human relations because they have a talent for people; rather, they have good human relations because they focus on contribution - in their own work and in their relationships with others. As a result, their relationships are productive, and this is, according to Drucker, the only valid definition of good human relations. "Warm feelings and pleasant words are meaningless....if there is no achievement in what is, after all, a work-focused and task-focused relationship."⁴⁷ Program managers should indeed know about human beings, know that they behave like human beings, and they should know what that im-

plies. Moreover, says Drucker, "managers need to know much more about themselves than they do, for most managers are action-focused than introspective."⁴⁸ That statement is an indictment aimed at managers to learn more about themselves, their surroundings, and the people in that environment. But as Knowles and Saxberg explain, "self-awareness and personal change go deeper than mere intellectual curiosity and mental calculation. They reach into the shadows of the mind, seeking discovery and control of hitherto unknown aspects of personality. The successful (manager) needs to find and accept himself in order to be sensitive and responsive to the full range of needs in his environment."⁴⁹

The program manager represents the central force of the program office organization. As such, he assumes for himself the task of planning and directing its course and, thus, he becomes involved in change. The successful program manager must be sensitive to changing needs within the organization, as well as to those imposed upon it by changes in the external environment related to technological, political, and economic conditions. Seborg concluded that the program manager must be a good listener as well as a good speaker.⁵⁰ This attests to the importance of sensitivity to one's environment. The program manager should not necessarily be listening for words, rather for attitudinal changes.

Loftus said that program management is an experience in human relations. "Other disciplines can be learned, but the development of project people will depend largely on the program manager's own personality and his willingness to let his subordinates participate in the process of managing the project."⁵¹ One of the findings of a NASA study concluded that the program manager must have "the ability to build a cohesive team by working effectively with a wide variety of people."⁵² We have concluded, at this point, that the program

manager must have a good insight into his own behavior, must be cognizant of the needs and wants of his people, and must be aware of the impact of external factors on his total environment. The question is "how?" Vardamann addressed the question from a managerial orientation viewpoint. In his words, managerial orientation refers to the manager's basic ideology, that is, his philosophy or way of thinking relative to his managerial activities.⁵³

According to Vardamann, managerial orientation is basic to managerial performance, and it bears directly on how a manager uses the problem-solving sequence. Managerial orientation differs from leadership style in that the first relates to a basic way of thinking whereas the latter refers to a way of action. Since his essential thought pattern underlies all of his behavior, the manager's orientation, or ideology, is referred to as mediative, or humanistic, or oriented to production. The production-oriented manager focuses on the mechanisms through which the company operates. The human-oriented manager emphasizes the dynamics of behavior and personnel networks as the key to accomplishing organizational goals. The mediative manager is a transactional agent for both production and human problem solving. The latter orientation appears to best fit the requirements of the program manager's job. Several tenets are common to mediative management, i.e., both production goals and membership needs must be satisfied, but the one that truly highlights the recognition of the overlap between the two dimensions is as follows: production problems affect people, and people problems affect production. This mediative manager recognizes that changing the organizational systems can have a distinct impact upon member attitudes and performance. He must be sensitive to the total organization environment and how the various elements interact. The program manager must never lose sight

of the mission, though. In his dealings with the people within the environment, he must temper his activity with reinforcement that the mission is first, but, of course, not at the expense of the people.

To further amplify this viewpoint, consider this dissertation by McNair who expounded this philosophy in 1966: "Undue preoccupation with human relations saps individual responsibility, leads us not to think about the job anymore and about getting it done, but only about people and their relations." He continues along those lines as he denounces the artificiality of the "practice" of human relations. Awareness of human relations as one aspect of the manager's job is of course essential. "But, awareness of human relations and the conscious effort to practice human relations on other people are two different things."⁵⁴ He explains that consciously trying to practice human relations is like trying to be a gentleman. If you have to think about it, insincerity creeps in and personal integrity seeps out. And that is what sensitivity is all about.

An unusual aspect of sensitivity with regard to the program manager is the fact that he deals with industrial contractors. Some program managers have had very little direct contact with industry prior to their being assigned to head up a program office. In order to deal properly with contractors, the program manager must know something about the industry which the contractor is a part of, its growth or decline, and its potential problems. As one program manager said: To know and understand an industry, you have to know something about what motivates business in general. Industry goes to great lengths to learn everything it can about its customer - the government. A program manager should do no less in learning about his major suppliers. One observer of the relationship described this situation vividly:

Buyer and seller are locked together in a relationship analagous to bilateral monopoly for the life of the program, and they must deal with each other on a bargaining basis.⁵⁵

The program manager should concern himself with an appreciation for human values. He must learn to look at himself as well as his workers and the environment in which they function. He must be sensitive to his environment and to the impact of his decisions on that environment. He should be constantly on guard for changes in the environment, including attitudinal changes and changes caused by forces external to the program office. His managerial style should reflect a balanced concern for output and for satisfaction of human needs. Lastly, he should learn whatever he can about the industry and contractors he deals with so that he can exercise judgement by understanding their problems.

Integrity

In his 1975 address at the Defense Systems Management College, Deputy Secretary Clements said that the program manager must have the strength of his convictions. "This takes fiber, it takes fortitude."⁵⁶ He alluded to the idea that a full sense of integrity is of extreme necessity for a program manager, not only in contractor relationship but also in dealing with his personnel and with other government agencies. The program manager must hold himself above any compromise of his personal or professional integrity.

As an introduction to the concept of integrity, let us explore the very basic principle of legitimacy as it applies to management. Legitimacy is regarded as an elusive concept having no definitive explanation. Authority without legitimacy is usurpation, and program managers must have authority to function. Yet, none of the traditional grounds of legitimacy suffice for any manager. They are in their managerial positions because they perform; however, performance has never been sufficient grounds for legitimacy. What is required for a manager's authority to be accepted as legitimate authority is a principle of morality. Managers need to ground their authority in a moral commitment which simultaneously expresses the purpose and character of organizations. What we are not talking about here is the morality, or immorality of war. What we are saying is that there is only one principle which supports the legitimacy of the manager's authority, any manager's authority, including that of the manager of a weapon system development program. That principle is to make human strength productive. This is the basic purpose for organization, of any kind and, thus, it is the grounds of management authority.

The organization represents the mechanism through which man finds both contribution and achievement. To develop this further, it requires managerial

performance to make the organization capable of fulfilling the role for which it exists. This managerial performance, however, is beyond that of making work productive and the worker achieving. It has to be performance with respect to the basic role and function of the manager. He must accept the moral responsibility of organization, the responsibility for making human strengths productive and achieving.

The basic rule of professional ethics is "primum non nocere", not knowingly to do harm.⁵⁷ It is also the basic rule of an ethics of public responsibility. For a manager to not make the right decision because it might not be popular, for a manager to misdirect or to prevent understanding, or for a manager to act purely for financial gain is not only a grievous social harm but also a gross violation of professional ethics. The program manager, because of his rank, status, and authority is in an extremely vulnerable position with respect to ethics. Since he is a human being, he is susceptible to the same kinds of temptations that can corrupt every other human being. This vulnerability is magnified by the singularly enormous responsibility and authority which is conferred upon the program manager.

Coincident with the acceptance of authority is the concept of conscience. Man must develop very early in his life a capacity for internalizing society's values so that he will be able to behave in ways which society regards as normal and ethical. The development of conscience seems to be connected with a child's learning to resist temptation. Feelings of guilt serve as a resistance against temptation and they manifest the functioning of conscience. Conscience is the difference between the individual who is aware of the law but is afraid only of getting caught and the person who feels that the law is right and that to break it is morally wrong. Learned conscience needs can be satisfied only

by denying the satisfaction of other needs. As this relates to the program manager, a conflict can arise between strong desires for psychological security and the conscience wish to be what people expect a program manager to be. The point to be made here is that conscience can be either overdeveloped or underdeveloped - and each of the extremes can be harmful. On the other hand, if many things are perceived as improper, or even sinful, then an individual can encounter numerous, serious psychological conflicts. For instance, if one learns early in life that aggressiveness is wrong, and he encounters situations in the course of his lifetime which require him to be aggressive, he may experience much more conflict than others would. On the other hand, if an individual develops an undersized conscience, he may not suffer directly, but society may suffer to a considerable degree. If a man can lie or manipulate people without feelings of guilt, for example, he could have a retrogressive effect on his fellow man, although he would suffer very little, personally. A program manager with an overdeveloped or underdeveloped conscience would only serve to degrade the overall organization, on the one hand through serious internal conflict, and on the other, by setting a poor example. In either instance, the effects of an abnormal conscience would permeate the program office.

Setting a good example for individuals assigned to the program office is one of the most important elements of the program manager's professional integrity. The manager in any organization is perceived as the pacesetter by other organizational members. He must portray an image of consistency of values and ethical concern. The manager should reflect a charisma that instills an implicit belief in his subordinates, that he can, and will succeed. They, the subordinates will believe that their interests lie in the manager's

interests. The manager provides the course for the organization to follow and becomes, through his behavior, the standard or ideal which will be emulated by individuals within the organization.

The program manager should reflect in his own managerial style a willingness to have trust and confidence in those working around him, therefore creating a basis on which those individuals can build their confidence and security. Realization of the program manager's integrity, as perceived by his subordinates, will create an atmosphere in which the individual can identify the organization's success with his own contributions. He is then encouraged to look ahead to even greater responsibilities and contributions insofar as he is willing to identify himself with the objectives and goals of the organization. To the extent that the program manager can create this atmosphere within his program office, he can significantly contribute to a general climate of trust and authenticity.

Authenticity is an important facet of the manager's overall managerial style, as perceived by his workers. There is no one best style for all managers in all situations. A manager must discover for himself the style that works best for him; he cannot merely adopt the practices or managerial style of someone else merely because they had been successful for others. He must represent an air of authenticity to his subordinates, and the managerial style perceived by his workers must be consistent with his unique personality.

"When managers behave in ways which do not fit their personalities, their behavior is apt to communicate to subordinates something quite different from what is intended. Subordinates usually view such behavior with suspicion and distrust."⁵⁸ Those managers who adopt artificial styles which are inconsistent with their personalities are likely not only to be destructive, but also to be ineffective as managers.

In Peter Drucker's discussion of organizing, he says that it demands the most economical use of resources. Since organizing deals with human beings, "it stands under the principle of justice, and it requires integrity. Integrity is required for the development of people... Justice dominates as the principle, economy is only secondary "⁵⁹ The point is that a manager can never compromise his integrity in the conduct of any of the functions of his job. The proper utilization and development of personnel under one's authority is a significant responsibility. During the interviews at Systems Command, all of the senior officers interviewed agreed that integrity is one of the most important qualities of a program manager. One commented that it spans the entire spectrum, saying that it sort of overlays the other personal qualities. Another said that he would like "to put it right up there with motivation." He added that he would like to assume that a program manager would never consider compromising his integrity.

We have inspected the concept of legitimacy as it relates to the authority conferred on the program manager. We have determined that there are several aspects of integrity, as it might apply to the program manager, i.e., his approach to decision-making, the degree to which conscience governs his performance, his setting a good example, his adoption of an authentic managerial style, and lastly, his sincere concern and effective utilization of personnel resources. These aspects of integrity can be best summed up in the phrase, "being honest with oneself." If the program manager can, in his introspection, feel comfortable with his self-appraisal, chances are that he is being honest with himself. The true man of integrity would never place himself in a position in which his integrity could ever be questioned.

The final proof of the sincerity of a manager is an uncompromising emphasis on integrity of character. It is character through which leadership is exercised. It is character that sets the example and it is imitated. Personnel will know in a very short time if a manager has integrity. Subordinates may forgive the manager for his shortcomings, incompetence, or ignorance; but, they will not forgive him for a lack of integrity. A program manager should not be appointed if he would consider intelligence to be more important than integrity, i.e., he is immature. He should not be appointed if he is afraid, or even uncomfortable with strong subordinates - this is weakness. If a manager lacks character and integrity, no matter how brilliant, how resourceful, he can only destroy. He will destroy his most precious asset - people.

One final aspect of integrity considers the complete and unbiased honesty with which a program manager reports his program status to higher headquarters. The urge to present a favorable image to others leads many individuals to discount what they know or think about the inevitable impact of a problem. It leads to glossing over the problems when progress reports are presented to higher headquarters. Sound judgment is sometimes replaced by a misplaced hope that the problems will disappear and that no one will discover them. "This idea of buttering up a report to management so that they will hear only nice things and consequently (believe that) your program (has no problems) falls flat when the first major problem that you cannot cover up appears."⁶⁰ Not only does this approach demonstrate unsound judgment, it is also not morally sound. One of the most courageous things a manager can do is to face up to problems, report them honestly, and then set out to correct them.

In summary, the program manager should realize that the moral grounds for his authority lies in the very basic purpose for organization; that is, to make human strength productive. It requires managerial performance to make the organization capable of fulfilling that role. The program manager is the one who must accept the moral responsibility of organization. In accomplishing his tasks, he must absolutely avoid any situation which could suggest a compromise of his personal or professional integrity. The program manager should strive to set a good example, and this should be driven by a balanced, developed conscience. He should be totally honest with himself, and he should be only concerned with doing what he feels is morally and ethically right. He must insure that his management style is not in conflict with his basic personality, as perceived by his subordinates. Finally, he must always use sound judgment and integrity in reporting his program's status to higher headquarters.

Self-Confidence

"A man finds happiness only by walking his own path
across the earth."

Cameron Hawley⁶¹

The individual's performance in his role as a manager is a function of his assessment of his own capabilities. This is a matter of perception, a self-assessment, rather than of objective reality. In his self-assessment, he may either overestimate or underestimate any part of his capabilities, or his capabilities in total. A manager's evaluation of his own capabilities naturally affects the way in which he deals with others. His utilization of, and impact upon his staff members will depend on his perception of his own expertise in the different functional areas of program management. Accordingly, a program manager's underevaluation of some facets of his own capabilities may lead to overdependence on others. Unless he feels confident in certain disciplines, he may be reticent to function in these areas. He may then be reluctant to take risks in these specific functional areas, and indecisiveness is a logical, and unfortunate result. This is only one aspect of the role which self-confidence plays in the functions of any manager. Within the overall context of the program management, he must accept the fact that he can never expect to become an expert in each and every discipline.

An individual who portrays an image of self-confidence most probably possesses solid self-esteem such that few external events could threaten him. One's past experiences with success and failure will dictate, to a degree, how one regards himself. If, through one's lifetime, he has come to expect failure, to feel unsure of his ability to satisfy his personal egoistic needs, then his negative image is exaggerated; it then follows

that people who have a low self-esteem are likely to be irrational about their efforts to satisfy their needs. On the other hand, if an individual can build up his feeling of self-confidence so his expectations are optimistic, he will be able to cope with problems rationally and objectively. In the case of the program manager, his status and achievements would imply a great degree of self-confidence based on an assumed high level of self-esteem and a rather optimistic view of his own capabilities. As Leavitt points out, some individuals meet fewer frustrations than others because they have more ways to circumvent obstacles or because they are self-confident enough so that their self-esteem does not have to be proven again and again by every problem they encounter.⁶²

Self-awareness, it can be said, effects self-confidence. To be aware of one's own self-concept is, in effect, to accept it, since one cannot know about himself unless he wants to. This does not mean that an individual then can not tolerate negative personal experiences; rather, as long as they are consistent with his self-concept, he can tolerate them. A person can take the "bad me" or the "good me", but he cannot tolerate the "not me."⁶³

Openness of an individual's personal self is characterized by a relationship of trust and confidence which he holds with his social environment. Unless an individual is open about himself and how he relates with his total environment, he cannot entirely achieve self-confidence. Additionally, this self-awareness is a function of the congruence that exists between one's feelings about his image and his projected image as perceived by others. To the extent that a man is independent of the need to protect himself from a conflict, to that extent he can remove barriers and open himself to his environment and to his fellow man. To that extent, he can achieve a true

sense of confidence in self. Opening oneself to experience implies the capacity to recognize and accept experience which appear to be self-confirming, regardless of whether they be positive or negative in nature. Even negative experiences, those in which an individual does not measure up to his self-concept, may be accepted as a natural part of his existence. Accepting the good and the bad about oneself makes it much easier to perceive others' good and bad and, in turn, easier to accept that fact as part of an individual self. This transference of perception to others can aid in developing one's own self-confidence because of a deeper understanding of and appreciation for others. Consequently, it creates a sense of comfortableness in dealing with others. One of the officers interviewed at Systems Command expanded on this point. It was his belief that a truly self-confident program manager finds it much easier to delegate responsibilities because he is so confident of himself that he transfers that confidence to others. Supporting this premise is the point that if the program manager has self-confidence and self-assurance to be able to select his workers, then he would feel comfortable in their being able to assume a good degree of responsibility. In other words, if the manager has self-confidence in being able to select good workers, he would then be confident to permit them to do their jobs.

In line with this discussion, the program manager should select a technical deputy whom he can trust with the responsibility of assuring the compatibility of all subsystem elements. The need for a technical deputy does not imply that the program manager should avoid all technical problems; in fact, systems engineering is one element of the program that he should be thoroughly familiar with. He cannot, however, be the systems engineer for

the program. He should only give each area the same attention he gives to other matters. This applies to all of the functional areas of responsibility in the program office, but moreso to the technical area since most program managers have a technical background. In short, if a program manager can be confident that he has the ability to select good people for those functional management positions, he should, permit them to do their jobs.

An accepted fact is that the primary role of the manager is that of making effective decisions. On a daily basis, across the functional spectrum, there is probably not one managerial position which requires more diverse decision-making capabilities than that of a program manager. The only aspect of decision-making that we wish to explore in this context is uncertainty and, in turn, the risks involved in the decision-making process. A manager never knows all of the facts when he is faced with a decision; otherwise, it would not be a decision, just a conclusion. An unfortunate facet of decisions is that, in many cases, they are difficult to implement because they are unpopular; they pose a risk to our psychosocial well-being. Drucker suggests that a decision requires courage as much as it requires judgment.⁶⁴ One acquires that courage from his self-concept, an awareness of his own capabilities. He knows what is the very best he can do, given the facts and uncertainties, and he is aware of the impact of the decision upon the environment and its members. When an individual can accept these things about himself and his ability to make decisions, he is developing self-confidence.

A NASA study concluded that the most important element of a program manager is a "mature sense of risk-taking."⁶⁵ This maturity they alluded to is a result of one's developed self-concept, an ability for a man to

accept himself as he is. The maturity in risk-taking lies in the minimizing of risk, and that has much to do with collecting all of the facts that relate to the problem, and then applying one's experience to that problem. When a manager feels that he has regarded every possible element, within imposed constraints, and has made a decision based on risk minimization and due regard for the environmental and social impact, then he can genuinely feel confident in his decision.

An aid to a program manager developing self-confidence is for him to keep informed about what is going on above him. He should be aware of what higher headquarters expects of him. In doing that, he must project an air of confidence to superiors so that they can, in turn, develop confidence in him. This will help the program manager in being able to establish rapport with his supporting agencies. If functional managers perceive that higher headquarters has confidence in the program manager, he is rarely apt to need to exercise his formal authority in dealing with them. "This confidence is a foundation of rapport with superiors which is, in turn, one of the main sources of the program manager's authority."⁶⁶

The program manager should accept the fact that he can not be an expert in all functional areas of responsibility in his domain. He should have sufficient confidence in his own capabilities, and know the limitations thereof, to appropriately delegate responsibilities to the various levels of concern. If the program manager has the self-confidence to select his own personnel, then he should possess, naturally, the same confidence in them to permit them to accomplish their assigned tasks. Openness will insure that an atmosphere of trust and sincerity will be created. He should be prepared to accept both the good and the bad, in himself and in others. The program

manager should be confident, in his decision-making, that he has considered all of the facts, faced the uncertainties, and minimized risk, and in doing so, considered the impact of his decision on the total environment. When he can accept all of these things about himself, he can then be genuinely self-confident.

Interviews Analysis

The structured interviews conducted at Air Force Systems Command provided data which tended to support the basic premise of this study project. The findings of the interviews substantiated the fundamental proposition that a candidate's personal qualities do play a significant role in the selection of program managers, albeit on an informal basis.

The consideration of the candidate's personality consists of several elements: 1) it is only one of several considerations, e.g., experience, past performance, etc., 2) the type of program may dictate that certain personal qualities will be stressed, 3) personality may be as important as past performance, for instance, only if some desired quality was obviously lacking in the candidate, and 4) the degree to which a particular quality has been developed is determined primarily by personal knowledge and assessment of the candidate by those senior officers who are most familiar with him.

The consensus of those interviewed was that the list of personal qualities presented to them contained the most important attributes for a program manager to possess. When asked if there might be some attribute which would deserve equal consideration, the unanimous response was "no." This, supports the findings of the literature review and the ensuing analysis which narrowed an extensive list of personal qualities down to motivation, integrity, self-confidence, sensitivity, and self-discipline.

The general feeling of those interviewed was that motivation is necessary for the program manager primarily because of the inherent rigors of the job. The program manager must be motivated to achieve in the high-pressure weapon system acquisition environment. Knowing that the job requires a highly motivated individual, senior officers tend to seek out

those candidates who are motivated toward and attracted to a specific program. One senior officer alluded to a "loyalty to the program" which program managers seem to develop during their tenure, and he considered that to be part of the motivation factor. A very basic aspect of motivation is the consideration of the tendency for motivation to transfer from the manager to his subordinates.

Of the other four qualities listed, the one receiving support second only to motivation was integrity. The general feeling was that the requirement for personal and professional integrity overlays the entire personality spectrum.

The other three attributes, sensitivity, self-confidence, and self-discipline, were considered of equal importance, but the consensus was that all five qualities were interrelated with each other and that one could not be present without the others being developed to a comparable degree. One comment was that the job itself almost drives the development of certain characteristics, such as self-discipline. The feeling was that, in order to do an effective job as a program manager, the individual must be able to discipline himself first.

SECTION VI

SUMMARY

The program manager's environment is peculiar in that it encompasses all of the fundamental managerial functions plus certain specific roles which are unique to weapon system acquisition. It is a high-pressure environment which strongly tests the abilities of the manager. The development of certain qualities or characteristics can be a great aid to program managers. The five most important personal qualities are motivation, self-confidence, integrity, self-discipline, and sensitivity.

Program managers tend to be oriented toward fulfilling their self-actualization needs. As such, they reflect a tendency to be achievement-oriented, and, in that respect, they should be power-oriented. They should exhibit a need to manage, a need to influence the performance of others.

The program manager, like most executives, tends to mismanage his time. He should delegate more responsibility to his lower-level managers to reserve his own time for the making of crucial decisions. The program manager should be allowed to manage his program, and to minimize the advocacy role. The more time he spends as a proponent for his program, the less time he will spend actually managing his program.

The atmosphere in a program office tends to engender frustration at times, and the program manager should be psychologically prepared to cope with it from the very first day. In that high-pressure environment, an occasional loss of composure should be viewed as a normal reaction to the inherent vigors of the position.

Program managers should have an appreciation for human values and should demonstrate a sensitivity to their total environment and its social, technical,

economic, and political aspects. They should be aware of the impact of their decisions on every element in their environment. The managerial style of the program manager should reflect a balanced concern for productivity and for the satisfaction of human needs.

The authority of the program manager dictates that his reason for existence in that role is to make human strength productive. He must develop an authentic managerial style which is not in conflict with his fundamental personality characteristics. The program manager must always avoid any situation which could conceivably suggest a compromise of his personal or professional integrity.

The program manager should not attempt to become an expert in all functional areas. He should know his own capabilities and limitations thereof, and, consequently, he should be able to develop a confidence in himself and his subordinates. An air of openness should permeate a program office, creating trust and sincerity among all members. The program manager should be prepared to accept both the good and the bad in himself and his workers. In his most important role, he should develop a mature sense of risk-taking in his decision making.

Conclusions

From the extensive survey of literature, and analysis thereof, and from the data acquired from the interviews with senior officers involved in selection of Air Force program managers, the following conclusions can be drawn:

1. The candidate's personality plays a significant role in the program manager selection process, but only on an informal basis.
2. Personality does not receive consideration equal to past experience and performance unless it is observed that some attribute is obviously lacking.
3. Senior officers assess the candidate's personality based on their own personal knowledge of him, and this is supplemented by inputs from his past supervisors, as required.
4. The five most important personal qualities of a program manager are motivation, integrity, self-confidence, sensitivity, and self-discipline.
5. The most important attribute or quality for an Air Force program manager to possess is a high degree of motivation.

Recommendations

Based on a consideration of the conclusions drawn in this study, the following recommendations are made:

1. That those with the responsibility for selecting Air Force program managers consider the personal qualities of potential candidates on a more formal basis.
2. That a structured method be devised in order to determine whether a PM candidate's personality is best suited to the job he is being considered for.
3. That the Air Force continue to enhance the status of the program management career field to attract outstanding officers to be motivated toward that field.
4. That students of program management consider the analysis and findings of this study project as an aid in assessing their inclinations toward a career in program management.
5. That Air Force officers with desires for a career in program management make a concerted effort to develop the personal qualities described herein.

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